CITY OF DAYTON

water

one source

Regional • Reliable • Renewable

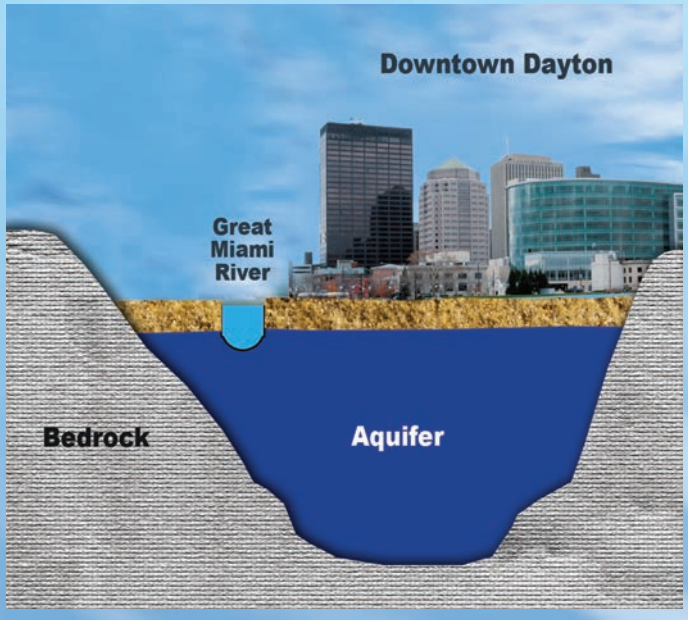
City of Dayton ▪ Source of Water

High quality and abundant water is the single most important resource in the world. The Great Miami Buried Valley Aquifer is one of the largest and most productive aquifer systems in the country.

An aquifer is an underground sand and gravel layer saturated with water. Water is stored in this vast underground reservoir. The Great Miami Buried Valley Aquifer has an abundant water supply for the City of Dayton and the other communities that we supply with drinking water.

Rainfall and thousands of miles of rivers and streams recharge this aquifer to create a truly "renewable" resource. The aquifer holds more than a trillion gallons of water, making our area very drought resistant and a water source you can depend upon. This valued resource serves as the principal water source for an estimated 1.5 million people in southwest Ohio.

Our regional aquifer resource is protected with an award winning source water protection program and sole source aquifer designation by the U.S. Environmental Protection Agency. The City of Dayton received the first National Exemplary Wellhead Protection Award from the American Water Works Association and has been designated as a Groundwater Guardian Community by the Groundwater Foundation every year since 1995.



City of Dayton ■ Source of Water

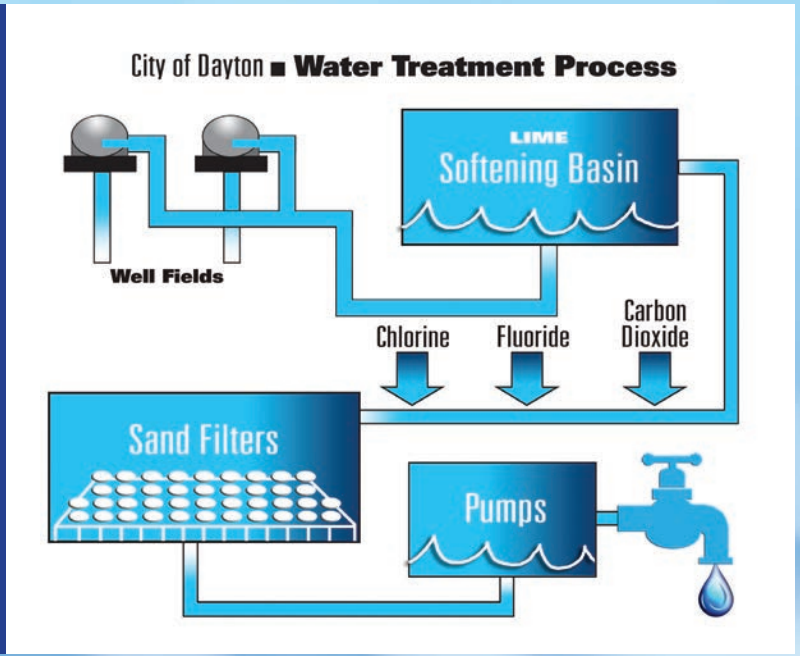
The City of Dayton Water Department treats and pumps drinking water to over 400,000 people in Montgomery County and part of Greene County. Water is supplied to the Miami and Ottawa Water Treatment Plants by wells at the Miami and Mad River Well Fields. Wells pump groundwater from the Great Miami Buried Valley Aquifer. Dayton uses recharge lagoons to help maintain the water table and allow large wells to efficiently pump water to the water plants. Dayton has 104 production wells. Each of these large wells can pump from one to four million gallons per day.

Production Well

Miami Water Treatment Plant

Well Sampling and Mobile Lab

Dayton's water treatment plants use conventional lime (calcium oxide) softening processes. After softening, the pH of the water is adjusted. Then, the water is fluoridated and disinfected. Rapid sand filtration is the final step in the water treatment process. Dayton's Ottawa Water Plant and Miami Water Plant have rated treatment capacities of 96 million gallons of water per day (for each plant).



Water Quality Information Related to Frequently Asked Questions

■ **"Hard Water"** – Dayton softens extremely hard well water so that water heaters, detergent, and soap can function efficiently. Hardness is caused by natural minerals in the well water. The average hardness for Dayton water in 2011 was 155 milligrams per liter (or 9 grains per gallon).

■ **"Rusty Water"** - Residents from throughout the distribution system occasionally experience reddish or brownish discolored water. This is usually caused by increased flow through water mains, which dislodges iron deposits. This is usually not a health threat, but consumers should refrain from using the water until the disturbance is over. After that, the water should be allowed to run until it clears before using.

■ **Chlorine** is added to drinking water as a disinfectant. Treatment plants add chlorine at a constant dosage to maintain an adequate concentration throughout the distribution system, as required by the Environmental Protection Agency.

■ **"Cloudy Water**" is usually caused by the release of dissolved air from water. This is quite common and harmless. When watched closely, the dissolved air (cloudiness) slowly travels upward, out of solution. Cloudiness can also be caused when natural minerals in water come out of solution.

■ **"White Spots in Coffee Pots"** - Minerals dissolved in water settle out when water is heated. The minerals will accumulate as "white spots in coffee pots". To remove these spots, fill the coffee pot with vinegar and let it sit overnight. In the morning, rinse out the coffee pot several times with water.

■ **Fluoride** occurs naturally in City of Dayton well water and in groundwater throughout the United States. Our water treatment plants supplement the natural fluoride to protect teeth from dental caries (cavities). The natural fluoride is increased from approximately 0.3 milligrams per liter (mg/L) to 0.9 mg/L.

Ohio law requires water systems serving a population > 5,000 (unless exempted from the law) with natural fluoride less than 0.8 mg/L to add fluoride to maintain concentrations in the range of 0.8 mg/L to 1.3 mg/L. Systems that add fluoride are required to monitor fluoride concentrations.

The U.S. Department of Health and Human Services is proposing a change to the recommendation for the optimal fluoride level in drinking water. The new recommendation, 0.7 mg/L of fluoride, replaces the previous recommended range of 0.7 to 1.2 mg/L. There are several reasons for this change, including that Americans have access to more sources of fluoride than they did when water fluoridation was first introduced in the United States.

■ **Lead** - The most common cause of lead in drinking water is the corrosion of plumbing fixtures and solders containing lead. The drinking water supplied to the distribution system of the City of Dayton does not contain lead at a detectable level. As a precaution, before using the water for drinking or cooking, lead can be reduced or eliminated from drinking water by allowing water to run until it gets colder. The City of Dayton Water Quality Laboratory extensively samples and tests drinking water from homes and other sites. Lead is not detected in most of the samples.

■ **Bacteria** – The City of Dayton samples and tests untreated and treated water for coliform bacteria on a routine basis. Coliform bacteria are a group of bacteria that can indicate contamination. The lime softening process, filtration, and disinfection at Dayton's water plants help to protect water from microbial contamination, including bacteria.

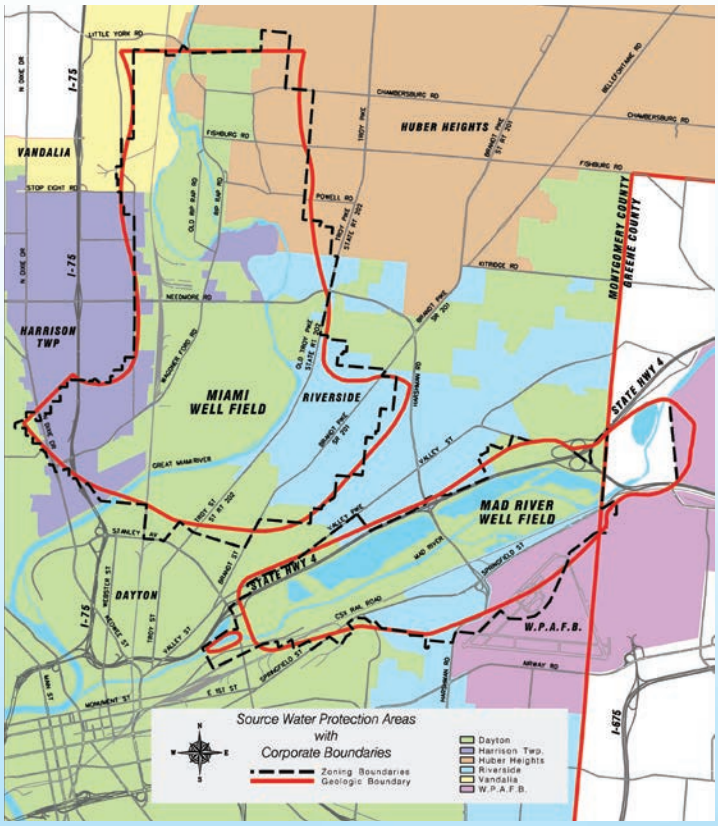
Instruments continuously monitor water at the water plants and Dayton's water distribution system. In addition, samples from wells, both water plants, and the distribution system are collected and tested by water plant operators and employees at Dayton's Central Water Quality Laboratory.

For More Information: City of Dayton Water Supply & Treatment Division, 937-333-6093 or see: http://water.daytonohio.gov/Water/

Ground Water Protection

To clearly assess contamination threats to the groundwater, environmental protection studies were completed for both of Dayton's well fields in 1986 and 1987. A Well Field Protection Program was developed to protect the groundwater. This program, now called the Source Water Protection Program, includes land use control zoning, groundwater monitoring and remediation, and emergency preparedness. Dayton and surrounding communities participate in the Source Water Protection Program. Networks of approximately 290 monitoring wells surround both well fields. Monitoring wells and drinking water wells are routinely sampled and tested for water quality. Twenty packed tower, air stripping systems have been constructed to pretreat groundwater. A powdered activated carbon facility can provide emergency treatment.

The Dayton Water Department's Division of Environmental Management oversees the Source Water Protection Program. Monitoring wells and production wells are sampled and tested by employees of Dayton's Central Water Quality Laboratory. Other Water Department divisions also perform work to support this program.



How You Can Protect Your Ground Water

- Do not allow motor oil, antifreeze, waste paint, solvents or other chemicals to soak into the ground.
- Clean up spills immediately! Apply absorbent, sweep up and place in a container for proper disposal.
- Apply lawn chemicals sparingly and according to directions.
- Take advantage of free household hazardous waste disposal (see Montgomery County's Solid Waste Division for information)
- Report any suspected illegal dumping!

Protect Your River Water

- Keep trash and pollutants out of storm water catch basins (located at curbs).
- Clean up pet wastes.

Dayton Water Department — 2011 Highlights

Employees of the City of Dayton Water Department work 24 hours per day, seven days per week operating wells, treatment plants, water pumping stations, sewer lift stations, a wastewater treatment plant, and performing work to maintain all of these systems.

Drinking Water

■ Over 23.7 billion gallons of water were treated and pumped into the water distribution system in 2011.

■ Dayton's Lime Recovery Facility produced 23,692 tons of calcium oxide for water softening.

■ One large water storage facility was repainted and solar powered recirculators were installed.

■ Painted and resurfaced contact clairfier basins at Miami Water Treatment Plant.

■ Ottawa Water Treatment Plant concrete in the basins repaired.

Water Quality Concerns?
Call 333-6093 (After business hours: 333-4900)

Water Distribution System

■ Dayton crews repaired 99 main breaks, 207 fire hydrants, and 257 service leaks.

■ Dayton crews installed 4,418 Automatic Meter Readers, 63 new fire hydrants, and made 83 (1" - 12") services taps.

To report water main breaks, meter leaks, service line leaks or fire hydrant problems: Please call 333-4900

Sewer System

In the 1800's Dayton leaders wisely began building separate storm water and sewer systems to separate rain water (which goes to the river) from sewage (which goes to the Wastewater Treatment Plant). Some cities are spending billions of dollars to separate these systems or to expand their sewer treatment plants.

■ Dayton crews cleaned 361 miles of sanitary sewer, and made 250 main line and lateral repairs.

■ Crews cleaned 8,425 storm water catch basins & repaired 450 catch basins.

■ Dayton's Wastewater Plant treats sewage from Dayton, a large part of Montgomery County, and Wright Patterson Air Force Base, and discharges 55-60 million gallons per day of treated wastewater. The wastewater plant recovers methane from the wastewater treatment process and uses it for heating and electricity.

Preventive Maintenance For Your Drains and Sewers

■ Keep leaves and other debris out of storm water catch basins.

■ Do not dump cooking grease and oils down sinks or toilets.

■ Diapers and female sanitary products should be placed in trash cans.

■ Pour water in floor drains and sinks on a regular basis to keep sewer odors out of your home.

■ Make sure your gutters are clear and your downspouts run about 10 feet away from your house.

Sanitary or Stormwater Sewer back-ups: 333-4915

Save Money and Prepare For Emergencies:

■ Consumers can save money by storing tap water in clean containers. This water can be stored for up to six months for every day use or for emergencies. Besides storing water for emergencies, consumers should also keep an emergency kit with non-perishable food that doesn't require cooking, first aid equipment, cold weather clothing, rain gear, sleeping bags, flashlights, radios, and batteries. See www.fema.gov or the www.redcross.org for more emergency preparation info.

City of Dayton ▬ Source of Water

The following text is presented as required by the Environmental Protection Agency.

The **Source** of Dayton's drinking water is the Miami Valley Buried Aquifer. This Aquifer is a large underground area of water-bearing sand and gravel deposits. This groundwater is influenced by surface water. The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include: microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife; inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming; pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses; organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems; and radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. In order to ensure that tap water is safe to drink, USEPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which shall provide the same protection for public health. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

Health Information Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Lead Information

"If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Dayton is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead." **Paint chips and other exposures are significant sources of lead exposure. Lead was not detected in most of the samples collected at City of Dayton homes. Call 937-333-6093 for details.**

Source Water Assessment

The Ohio EPA conducted a source water assessment of Dayton's water source. The assessment concluded that the aquifer supplying water to the City of Dayton's well fields has a high susceptibility to contamination. This determination is based on: the influence of surface water recharge to the aquifer; the presence of a relatively thin protective layer of clay overlying the aquifer; the shallow depth of the aquifer; contaminant plumes in Dayton's well field protection area; the presence of significant potential contaminant sources in the protection area; and the presence of contaminants in treated water. More information about the source water assessment or what consumers can do to help protect the aquifer is available by calling the Division of Environmental Management at (937) 333-3725.

Groundwater Protection

In 1985 the Water Department began development of a Well Field Protection Program to counter threats to groundwater quality. This program includes land use control zoning, treatment of contaminated groundwater, early warning monitoring wells, and emergency preparedness. Dayton's Well Field Protection Program won an award from the American Water Works Association and was the first program approved by the Ohio Environmental Protection Agency. The Groundwater Foundation has also designated Dayton as a Groundwater Guardian community. Dayton encourages environmentally friendly, economic development projects in its groundwater protection areas.

For More Information In 2011, Dayton treated and pumped approximately 23 billion gallons of water to over 400,000 area citizens. City of Dayton citizens can participate in decisions about water quality by attending City Commission meetings and Environmental Advisory Board meetings. Call the Water Department Administration Office at 333-3734 for meeting dates and times. For more information on water quality: City of Dayton Water Dept., 3210 Chuck Wagner Lane, Dayton, Ohio 45414 or call 937-333-6093.

City of Dayton Department of Water 2012 Water Quality Report

Dayton Water - Regional * Reliable * Renewable

We are proud to report that the City of Dayton complied with all MCL* standards for drinking water during 2011. The following results summarize thousands of tests performed in 2011

Regulated Substance	Highest Level Allowed (MCL)	Ideal Goals (MCLG)	Highest Level Detected	Range of Detection	Sources of Contaminants
Regulated at the Treatment Plant					
Fluoride (ppm)	4	4	1.19	0.76-1.19	Natural geology/supplement
Nitrate (ppm)	10	10	1.87	0.17-1.87	Fertilizer runoff/natural geology
Turbidity (NTU)	TT = 1	N/A	0.17	0.02-0.17	Lime softening residuals
	TT: ≥ 95% must be ≤ 0.3		100 %[1]		
Cis-1,2-dichloroethylene(ppb)	70	70	0.53	ND – 0.53	Discharge from factories
Total Organic Carbon(TOC)	TT[2]	N/A	1.0 ppm[2]	0.54-1.13	Naturally present in the environment
Toluene	1	1	0.62	ND-0.62	Discharge from petroleum factories
Regulated at the Customer's Tap					
Lead (ppb)	AL = 15	0	<3[3]	No samples >AL ND – 11	Corrosion of household plumbing materials
Copper (ppm)	AL = 1.3	1.3	0.055[3]	No Samples >AL ND – 0.105	
Regulated in the Distribution System					
Trihalomethanes (THMs) (ppb)	80[4]	0	29.5[4]	13.32-39.0	By-product of chlorination
Haloacetic Acids (HAAs) (ppb)	60[4]	N/A	5.4[4]	1.70-5.87	By-product of chlorination
Chlorine (ppm)	MRDL = 4	MRDLG=4	1.29[5]	0.21-1.83	Water additive to control microbes
Coliform Bacteria (% positive/month)	5%	0	0.8 %[6]	Not detected	Naturally present in the environment
Unregulated Compounds (average and range are shown for treatment plant effluent samples)					
Bromodichloromethane (ppb)	N/A	N/A	1.40	1.17-1.85	By-products of drinking water chlorination (concentration in ppb)
Bromoform (ppb)	N/A	N/A	<0.5	ND-0.45	
Chloroform (ppb)	N/A	N/A	1.06	0.68-2.46	
Dibromochloromethane (ppb)	N/A	N/A	1.30	0.87-1.61	

1 Dayton complied with requirements for every month in 2011. Turbidity is used to measure the performance of sand filters.

2 Dayton complied with alternate compliance criteria for TOC regulations under the D/DBP Rule. The level reported is "average".

3 90% of samples were less than <3 ppb for lead and less than 0.055 ppm for copper. Lead and copper were not detected in most of the samples.

4 Highest running annual average.

5 Highest running quarterly average.

6 In 2011 three distribution samples were positive for coliform bacteria. There were 1,503 samples analyzed. All samples were negative for EColi.

***MCL** = Maximum Contaminant Level – The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
MCLG = Maximum Contaminant Level Goal – The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
NTU = Nephelometric Turbidity Units (measure of "cloudiness")
MRDL = Maximum Residual Disinfectant Level – The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
MRDLG = Maximum Residual Disinfectant Level Goal. The level of drinking water disinfectant below where there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
TT = Treatment Technique – A required process intended to reduce the level of a contaminant in drinking water.
AL = Action Level – The concentration of a contaminant which, if exceeded, triggers treatment or other requirements for a water system.
pCi/l = picocuries per liter (a measure of radioactivity) **ppm** = parts per million **ppb** = parts per billion **N/A** = Not applicable
≤ = less than or equal to ≥ = greater than or equal to > = greater than < = less than **ND** = Not detected

These substances were not detected in water plant finished water or distribution samples in 2011: Aluminum, Antimony, Arsenic, Beryllium, Cadmium, Chromium, Copper, Cobalt, Lead, Mercury, Nickel, Selenium, Silver, Thallium, Tin, Titanium, Vanadium, Zinc, Nitrogen/Phosphorus Pesticides, Acid Extractable & Base Neutral Compounds.

CITY OF DAYTON
WATER SUPPLY & TREATMENT
3210 Chuck Wagner Lane ■ Dayton OH 45414

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Contact Us:

Water Emergencies, Low Water Pressure: 333-4900
Sewer emergencies (backed-up sewers, etc.): 333-4915
Water Quality Concerns or Questions: 333-6093

Installing Water Service or
Paying City of Dayton Utility Bills: 333-3550.
Pay Water Bills Online at www.paydaytonwater.com
or in person at City Hall.

Visit us online at http://water.daytonohio.gov/Water/

This report meets USEPA and Ohio EPA requirements for the Consumer Confidence Report Rule.